

REMARKS

In this first Office Action dated September 2, 2005, Claims 1-9 in the above-captioned application were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Pub. No. 2002/0018489 to Ambe et al. ("Ambe"), in view of U.S. Pat. No. 5,949,783 to Husak et al. ("Husak") and U.S. Pat. No. 6,614,792 to Pazy et al. ("Pazy"). Claims 10-12 were objected to as multiple dependent claims not referring to the claims from which they depend in the alternative as required by 37 CFR § 1.75. Finally, the reference to the limitation "transit LEC" in Claim 9 was objected to and was examined with the understanding that the applicants were instead referring to a "transit ELAN."

In this response, applicants have amended the specification to clarify the reference to "Tx" on page 3, including removing the reference in line 10, and instead inserting it in line 16. Applicants have further amended the specification to correct various typographical and/or translation errors. Applicants have also amended Claims 1-12 to correct various typographical and/or translation errors and to clarify the subject matter which the applicants regard as the invention. Applicants have further amended Claims 10-12 to address the Examiner's objection to their form as multiple dependent claims not referring to the claims from which they depend in the alternative as required by 37 CFR § 1.75.

Applicants respectfully traverse the rejection of Claims 1-9 as unpatentable over Ambe in view of Husak and Pazy. Applicants submit that the cited references fail to disclose the virtual router and routing method that are variously recited in Claims 1-12. Accordingly, pursuant to 37 C.F.R. § 1.111, and for the reasons set forth below, applicants respectfully request reconsideration of all of the pending Claims 1-12, as currently amended, and allowance of this application.

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Rejection of Claims 1-9 under 35 U.S.C. § 103(a) over Ambe in view of Husak and Pazy

Applicants respectfully traverse this rejection as set forth below.

Claim 1

Among other passages, the Office Action cites the passage in Ambe disclosing switches 1, 2, and 3, interconnected via a high speed bus as shown in FIGs 1, 45, and 46, and further illustrated in paragraphs 68 and 280, to support the assertion on page 3 of the Office Action that the interconnected switches disclose the transit ELAN as recited in Claim 1, as well as the transit LEC. Applicants respectfully disagree.

Contrary to the Office Action's assertion, nothing in the cited passage supports the conclusion that the interconnected switches of Ambe disclose the transit ELAN and transit LEC, much less a transit ELAN in which all access functions of the same component are adjacent through the transit ELAN, and in which the transit LEC is a means to connect the transit ELAN to the access function, as recited in the currently amended Claim 1. The cited passage simply describes a typical switch and high speed bus configuration having nothing to do with an emulated LAN (ELAN) or a LAN emulation client (LEC). Indeed, applicants do not find any reference to emulated LANs or LECs in the Ambe reference.

The Office Action cites numerous passages in Ambe discussing the difference between layer 2 and layer 3 routing, layer 2 tables and registers, and address resolution logic appearing in paragraphs 8, 66, 100, 148, and 205 to support the assertion on page 4 of the Office Action that Ambe provides routing between different VLANs using layer 3 switching, and, as such, describes the router LEC means recited in Claim 1. Applicants respectfully disagree.

Contrary to the Office Action's assertion, nothing in the cited passages supports the conclusion that Ambe describes a router LEC means, as recited in Claim 1. Routing between different VLANs using layer 3 switching does not disclose a router LEC means as recited in

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Claim 1. As already noted, applicants do not find any reference to emulated LANs or LECs in the Ambe reference, much less a router LEC means adapted to connect the access function to at least one ELAN_i associated with a VLAN_i.

The Office Action concedes that Ambe does not expressly disclose that the use of a LAN emulation protocol is one way of implementing a Virtual LAN in an ATM network. However, the Office Action cites numerous passages in Husak, including FIGS. 4, 5A and 5B, and Col. 44, lines 55-67, and Col. 6, lines 1-27, to support the assertion that Husak discloses an ATM based VLAN that includes several bridge ELANs connected to corresponding VLANs. The Office Action states that it would have been obvious to modify Ambe to incorporate the ATM based LAN/VLAN disclosed in Husak, because Ambe discloses that the ATM LANs may be configured as VLANs and Husak shows how an ATM emulated LAN can efficiently support multiple VLANs. Applicants respectfully disagree.

First, the mere fact that references can be combined or modified is not sufficient to establish a *prima facie* case of obviousness. MPEP § 2143.01. Husak is primarily concerned with improving the efficiency of a network by preventing the unnecessary forwarding and reproduction of data frames by LES/BUS sub-servers in an emulated LAN supporting one or more VLANs. This goal is achieved by identifying the number of pre-established output connections over which a destination VLAN is reachable on the emulated LAN, and comparing that number to a threshold number to determine whether and how to establish additional connections over which the data frame may be forwarded to its final destination VLAN. (Husak, Col. 3, lines 1-39.) As such, Husak is an example of a service that, as noted on page 2 of the specification of the present application, "relies on the implementation of essential centralized functions of servers However, when the network is subdivided into several non-interconnected components, there is no certainty that each component will have all the functions essential to the service" Moreover, determining whether and how to establish

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connections in an emulated LAN supporting multiple VLANs as taught by Husak does not require a transit ELAN in which all access functions of the same component are adjacent through the transit ELAN, as recited in Claim 1. Owing to Husak's reliance on centralization of functions of servers, such a modification of Ambe by Husak might not even be possible. Even if it were possible, there is nothing in Ambe or Husak that discloses the claimed embodiments of a virtual router in which all access functions of the same component are adjacent through the transit ELAN, and in which the transit LEC is a means to connect the transit ELAN to the access function, or in which a router LEC means is adapted to connect the access function to at least one ELAN_i associated with a VLAN_i, as recited in Claim 1.

The Office Action further concedes that Ambe does not expressly disclose how an MPOA ELAN will use an MPOA Server (MPS) as opposed to legacy ELANs. However, the Office Action cites Col. 2, lines 44-63, of Pazy to support this assertion that Pazy shows how an ATM LAN using an MPOA server can increase Layer 2 and 3 switch processing. The Office Action concludes that it would have been obvious to modify Ambe to incorporate the MPOA Server (MPS) disclosed in Pazy, because Ambe discloses a switch that supports an ATM based LAN, specifically mentions the IEEE 802.3 specification as the type of ATM LAN that would be supported, and indicates an objective of increasing Layer 2 and 3 switch processing speeds. Applicants respectfully disagree.

Pazy describes providing MPOA services for legacy LECs (i.e., LECs that are not MPOA-aware) through a centralized proxy MPOA client to aid in upgrading existing ATM networks to MPOA standards. As such, the centralized MPOA client of Pazy is yet another example of a service that, as noted on page 2 of the specification of the present application, "relies on the implementation of essential centralized functions of servers However, when the network is subdivided into several non-interconnected components, there is no certainty that each component will have all the functions essential to the service" Even if Ambe were

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able to be modified to incorporate an MPOA server function (MPS) as taught by Pazy, such combination does not require that the network components include a transit ELAN in which all access functions of the same component are adjacent through the transit ELAN, as recited in Claim 1. Moreover, there is nothing in Ambe or Pazy that discloses the claimed embodiments of a virtual router in which the transit LEC is a means to connect the transit ELAN to the access function, or in which a router LEC means is adapted to connect the access function to at least one ELAN_i associated with a VLAN_i, as recited in Claim 1.

Claims 2-7

The Office Action has further rejected Claims 2-7 citing Ambe and Husak. Applicants submit that Claims 2-7 are allowable at least in part because they depend from allowable independent Claim 1, and because of their additional limitations.

Claim 8

Among other passages, the Office Action cites the passage in Ambe disclosing a Gigabit Port Interface Controller described in paragraphs 65 and 66 to support the assertion that such controller discloses the access function recited in Claim 8, as well to support the assertion that the ingress ports on the controller disclose the transit LEC. Applicants respectfully disagree.

Contrary to the Office Action's assertion, nothing in the cited passage supports the conclusion that the Gigabit Port Interface Controller discloses the access function recited in Claim 8, or that the ingress ports of the Gigabit Port Interface Controller disclose router or transit LECs, much less an access function that relays the data packets in the specific manner described and recited in the currently amended Claim 8. The cited passage simply describes a typical Gigabit Port Interface Controller having nothing to do with an emulated LAN (ELAN) or a LAN emulation client (LEC). Indeed, applicants do not find any reference to emulated LANs or LECs in the Ambe reference.

The Office Action further cites paragraph 210 of Ambe describing a default router table, and concludes that the default router table discloses relaying a packet to the transit ELAN if the addressee of the packet is a VLAN that is not serviced, as recited in Claim 8. The Applicants respectfully disagree.

Contrary to the Office Action's assertion, nothing in the description of the default router table supports the conclusion that Ambe describes relaying a packet on the transit ELAN via a transit LEC of a node X to a transit LEC of a node Y if the addressee of the packet is a VLAN that is not serviced, as recited in Claim 8. As already noted, applicants do not find any reference to ELANs or LECs in the Ambe reference, much less an access function that relays data packets in the specific manner described and recited in Claim 8.

The Office Action concedes that Ambe does not expressly disclose a VLAN comprising at least one LEC user. However, the Office Action again cites Husak to support the conclusion that it would have been obvious to modify Ambe to incorporate the ATM based LAN/VLAN disclosed in Husak, because Ambe discloses that the ATM LANs may be configured as VLANs and Husak shows how an ATM emulated LAN can efficiently support multiple VLANs. Applicants respectfully disagree for the same reasons set forth above with respect to independent Claim 1, in that the mere fact that references can be combined or modified is not sufficient to establish a *prima facie* case of obviousness. MPEP § 2143.01.

Claim 9

The Office Action cites paragraphs 96, 118, 128, 207 and 208 of Ambe, which describes forwarding data packets to the appropriate egress port that handles a specific addressee VLAN, to support the conclusion that such forwarding discloses if the addressee VLAN belongs to the list, the relaying function of the access function is activated and the data packet is relayed to the router LEC having an identifier that is the identifier of the addressee VLAN, as recited in

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Claim 9. The Office Action again cites the default router disclosure of paragraph 210 of Ambe to support his conclusion on page 9 of the Office action that the default router discloses if the addressee VLAN does not belong to the list, the data packet is relayed to the transit LEC of a node Y as mentioned in the routing table. Applicants respectfully disagree.

Contrary to the Office Action's assertion, nothing in the description of the data packet forwarding or default router table supports the conclusion that Ambe describes relaying packets to a router LEC having an identifier that is the identifier of the addressee VLAN, if the address VLAN belongs to the list, as recited in Claim 9. Moreover, nothing in the description of the default router table supports the Office Action's conclusion that Ambe describes relaying packets to the transit LEC of a node Y as mentioned in the routing table, as recited in Claim 9. See page 8, lines 28-33, of the present specification for support for this limitation. As already noted, applicants do not find any reference to ELANs or LECs in the Ambe reference, much less an access function that relays data packets in the specific manner described and recited in Claim 9. Accordingly, applicants submit that Claim 9 is allowable at least in part because it depends from allowable independent Claim 8, and because it recites additional limitations as distinguished above.

Objection as to form of Claims 10-12

With regard to Claims 10-12, applicants respectfully request that they be reconsidered in light of the applicants' amendments to overcome the Examiner's objections to form.

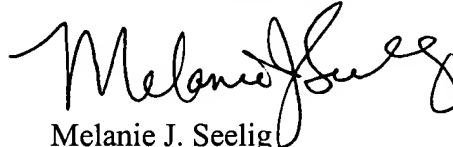
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CONCLUSION

In view of the foregoing remarks, applicants submit that all of the claims in the present application are clearly patentably distinguishable over the teachings of Ambe taken alone or in combination with Husak or Pazy. Independent Claims 1 and 8 are clearly and patentably distinguishable over the cited and applied references. Claims 2-7 and 9-12 are allowable because they depend from allowable independent Claims 1 and 8, and because of their additional limitations. Accordingly, applicants submit that this application is in condition for allowance. Reconsideration and reexamination of the application, allowance of the claims, and passing of the application to issue at an early date are solicited. If the Examiner has any remaining questions concerning this application, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

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Date: March 2, 2006

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